

Results: 279 patients underwent surgery for colorectal cancer during this period. 80.3% were laparoscopic and 19.7% open. The conversion rate was 13.8% (Inter-surgeon range 11–17%). The median follow up was 50 months. The overall mortality rate was 17.9%. Patients that had undergone laparoscopic surgery for colorectal cancer had a significant difference in their overall mortality rate over those that were converted (14.5% v's 32.2%; $p=0.02$). For disease specific related mortality laparoscopic surgery resulted in less mortality than open for non metastatic disease (AJCC Stage I, II; 5.2% v's 17.9%; $p=0.04$).

Conclusions: In summary, overall mortality and disease specific survival is worse after conversion. Laparoscopic colorectal cancer surgery should only be undertaken by specific surgeons in specialised MIS units with low conversion rates.

1151: SHORT TERM OUTCOMES IN LAPAROSCOPIC VERSUS OPEN APPROACH IN LEFT AND RIGHT HEMICOLECTOMIES WITHIN AN ENHANCED RECOVERY PROGRAMME

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Short term outcome benefits in laparoscopic colectomies remains debatable. We compared the short-term outcomes between laparoscopic and open surgery and compared these with left and right hemicolectomies.

Data was collected from enhanced recovery programme database between 2009 and 2011. 61 patients underwent left hemicolectomy (laparoscopic to open ratio, 2:3) and 102 had right hemicolectomy (laparoscopic to open ratio, 5:8). Short term and postoperative outcomes were compared. Hospital stay was shorter in the laparoscopic group compared to open in both left hemicolectomy (7 days compared to 9, $p<0.03$) and right hemicolectomy (6 compared to 7.5 days, $p<0.02$). Complication rates were higher amongst patient who underwent open surgery for left hemicolectomies (complication rate of laparoscopic versus open = 29.17% versus 51.35%). However there were no differences in complication rates when comparing the two approaches in right hemicolectomies. Rate of ileus was higher in patients who had open left hemicolectomies, but there was no difference in rate of ileus amongst right hemicolectomy open or laparoscopic approach. Laparoscopic colorectal surgery reduces length of hospital stay in both left and right hemicolectomies. It is also associated with lower morbidity in patients undergoing left hemicolectomies but does not improve morbidity in patients undergoing right hemicolectomies.

1165: OPTIMIZATION OF PERI-OPERATIVE HDU CARE FOR ELECTIVE COLORECTAL PATIENTS

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Objectives: To review the care of high-risk elective colorectal patients with regards to timing of discharge from the HDU & its effects on post-op complications, re-admission to HDU, length of stay (LOS) and mortality.

Methods: All elective colorectal patients admitted to HDU during 2010 were included. Patients were divided into two groups with regards to their stay on HDU: Group 1 < 48 hrs & Group 2 > 48 hrs. Data regarding demographics, post-op complications, re-admission & mortality were collected & analysed using SPSS version 14.

Results: Out of the total of 40 patients, 21 were females with a median age of 74 (range 45–92). The number of patients in group 1 & 2 were 26 and 14 respectively. Laparoscopic procedures were performed in 31 patients. Post-op complications were higher (72.2% Vs 27.8%, $p<0.04$) & length of stay was significantly longer [8 (IQR 4–41) Vs 6.5 (4–12) $p<0.03$]; amongst group 1 than group 2 patients. Four patients in group 1 were re-admitted to HDU. No mortality was reported.

Conclusion: Early discharge from the HDU is associated with a significant risk of complications; re-admission (15.3%) and a prolonged length of stay. Ensuring a minimum stay of 48 hrs would reduce morbidity thus optimizing HDU patient care.

1194: METABOLIC EFFECTS OF CHEMORADIOTHERAPY IN RECTAL CANCER PATIENTS

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Aim: Neo-adjuvant chemoradiotherapy is part of the standard treatment of care for down staging rectal cancers prior to surgery. However, the exact impact of treatment response is a challenge to predict, with toxicity of treatment being an added complication. The aim of the study was to investigate the metabolic alterations of rectal cancer patients undergoing therapy using proton nuclear magnetic resonance spectroscopy (¹H NMR).

Methods: Twenty-four specimens were obtained from patients with rectal cancer and controls. Plasma samples were used for the ¹H NMR experiments. All ¹H NMR spectra were acquired using a Bruker DRX600C spectrometer (Bruker, Germany). Pattern recognition and statistical analysis were performed using MATLAB and SIMCA software.

Results: Higher levels in lactate and choline metabolites were seen in rectal cancer patients undergoing chemoradiotherapy compared to controls. Statistically significant changes between the groups were also observed in low-density lipoproteins, glycoproteins and amino acids such as valine and glutamine.

Conclusion: Lipids in the form of phospholipids for cell membrane synthesis were found to account for the distinct separation of samples based on response to chemoradiotherapy. Although in its infancy, metabolic profiling may in the future be used to monitor response to chemoradiotherapy early and hence potentially avoid toxicity effects.

ENDOCRINE SURGERY

0196: PARATHYROIDECTOMY IN A DISTRICT GENERAL HOSPITAL: OUTCOMES AND EVOLUTION IN THE ERA OF MINIMALLY INVASIVE SURGERY

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Aim: To determine the outcomes of bilateral neck exploration (BNE) and uptake as well as outcomes of minimally invasive parathyroidectomy (MIP) for primary hyperparathyroidism in a district general hospital (DGH).

Methods: Review of prospectively maintained database of a single surgeons' practice for outcomes of BNE and MIP between August 1999 and December 2010. Patients were considered 'cured' when serum calcium levels remained normal for more than 6 months after surgery.

Results: 368 patients underwent parathyroidectomy; BNE (n=314) and MIP (n=54). 92 patients underwent preoperative localisation; ultrasound (n=92) and 99TC Sestamibi (MIBI) scan (n=91). Localisation from Ultrasound and MIBI was noted in 65% (n=60) and 71% (n=65) respectively; however, concordance between the scans was noted in only 59% (n=54). Overall cure rate was 97%. Intention-to-treat analysis, based on preoperative imaging showed cure rates of 96% with BNE and 98% with MIP ($p=0.53$); whereas, based on surgical approach, cure rates were 96.5% with BNE and 96.3% with MIP ($p=1.0$).

Conclusions: Satisfactory cure rates for parathyroidectomy could be achieved in a DGH. Preoperative localisation studies with ultrasound and MIBI have a positive concordance rate in only 60% of those considered for MIP, thereby limiting the use of MIP and reinforcing the role of BNE in this era of minimally invasive surgery.

0239: IOPANOIC ACID IS SAFE AND EFFECTIVE AS A BRIDGE TO SURGERY IN THYROTOXICOSIS

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Aim: To determine the efficacy and safety of iopanoic acid (IA) in achieving euthyroidism prior to total thyroidectomy in patients with thyrotoxicosis.

Methods: Between 2007 and 2010, 9 patients with thyrotoxicosis were treated with IA prior to total thyroidectomy. Data regarding indications for surgery, dose of IA and final outcomes were collected.

Results: The age range of the patients was 22–65 years and mean was 38 years. All were females. The indications for surgery were as follows: allergic reaction to carbimazole (6 patients), neutropenia (1), propylthiouracil induced hepatotoxicity (1) and non-compliance with antithyroid drugs (1). The mean total dose of IA was 7.7 gm; the range being 4.4 to 10.5 gm. The mean total duration was 4 days. In 8 patients IA was used alone and in one patient it was used in combination with carbimazole. All achieved biochemical euthyroidism prior to surgery. Before and after the

course of IA mean free T4 was 30 pmol/L and 11.4 pmol/L respectively (range: 9.4 to 22.7 pmol/L). There were no adverse effects to IA. There were no complications following surgery.

Conclusions: Iopanoic acid is safe and effective in rapidly controlling thyrotoxicosis prior to total thyroidectomy.

0623: SESTA-MIBI SCANS, CAN THEY PREDICT INTRATHYROID PARATHYROID ADENOMA?

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Aim: To evaluate the role of sesta-mibi scans in predicting intrathyroidal parathyroid adenoma in primary hyperparathyroidism.

Method: Retrospective analysis of parathyroidectomies performed in a district general hospital during the last 6 years (2005–11). Sesta-mibi scans were performed pre-operatively in all patients with primary hyperparathyroidism. Where no adenoma was identified during exploration of neck, a hemithyroidectomy was performed on the side suggested by sestamibi scan.

Results: 78 patients had exploration of neck, 82% female, 18% male, with a mean age 62 years. Sestamibi was positive in 60 patients and 54 had parathyroid adenoma identified on exploration. 6 patients after a failed neck exploration underwent hemithyroidectomy. Histology revealed intrathyroidal parathyroid adenoma in 5 patients (83%). Out of 18 patients with negative scans 14 had an adenoma removed. Sesta-mibi scans had a sensitivity of 81% and positive predictive value of 98.3%.

Conclusion: Sestamibi scan helped to identify 5 patients with intrathyroidal parathyroid adenoma when neck exploration was negative. When no adenoma is visible on exploration a hemithyroidectomy at the side suggested by the scan is justified.

0681: MINIMALLY INVASIVE PARATHYROIDECTOMY FOR PRIMARY HYPERTHYROIDISM GUIDED BY INTRA-OPERATIVE PARATHYROID HORMONE MONITORING

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Aim: Intra-operative parathyroid hormone (PTH) levels can demonstrate successful removal of a parathyroid adenoma during minimally invasive parathyroidectomy. However, this technique remains controversial due to variations in blood sampling and excision criteria. In this study, we explored the success rate of our technique.

Methods: A consecutive series of 92 patients with histologically confirmed primary hyperparathyroidism was analysed retrospectively. All were treated with a minimally invasive technique. Serum PTH levels were checked prior to gland removal and twenty minutes after gland removal to confirm a decrease of greater than 50%, which was considered to indicate a curative procedure.

Results: The median pre-operative PTH level was 14.35 ng/L (interquartile range (IQR) 10.7–20.3). The two week post operative median level was 5.4 ng/L (IQR 3.4–7) and median adjusted calcium level was 2.39 mmol/L (IQR 2.28–2.5).

The average intraoperative PTH decrease was 75.6%. Of the 92 patients, 8 (8.7%) required multiple gland removal due to adenoma location differing to that indicated by preoperative imaging (3 were retrosternal).

The biochemical cure rate within this cohort was 98%. 2 patients had no intraoperative PTH drop and persisting hypercalcaemia. They underwent further imaging and curative surgery.

Conclusion: Intra-operative PTH monitoring is a useful adjunct to minimally invasive parathyroidectomy.

0721: PATIENT OUTCOME FOLLOWING LAPAROSCOPIC BILATERAL ADRENALECTOMY

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Introduction: The aim was to compare outcome of patients undergoing laparoscopic bilateral adrenalectomy (LBA) with those undergoing laparoscopic unilateral adrenalectomy (LUA) for similar conditions.

Method: A retrospective analysis was performed of all patients (280) undergoing adrenalectomy in a single institution by the same surgeon

between 1999–2011. 25 were LBA; 16 were for adrenal hyperplasia secondary to Cushing's disease, 5 for bilateral pheochromocytoma, 3 for metastatic disease, one for bilateral adenomas and a case where one gland was hyperplastic and the other had a pheochromocytoma. 122 patients underwent LUA for similar conditions during the same time period.

Results: The mean operative time for LBA was 220 mins (range 105 to 325) compared to 110 mins for LUA (p=0.0001). There was one conversion in the LBA group compared to none in the LUA group. There were no intra-operative complications. 2 patients (8%) developed minor post-operative complications in the LBA group compared to 10 (8%) in the LUA group. The mean hospital stay was 3 days in the LBA group (range 2 to 14) compared to 1 day in the LUA group.

Conclusion: Laparoscopic bilateral adrenalectomy is safe and associated with similar post operative outcomes to unilateral laparoscopic adrenalectomy.

0912: OUTCOME AFTER THYROID SURGERY - PATIENTS' PERSPECTIVE

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Aims: The quoted risk of morbidity after thyroid surgery is based on published data from large series but patients' perception remains insufficiently explored. The aim was to explore and categorise outcomes of thyroidectomy into voice change, swallowing, scar, need for medication and calcium supplementation, and assess these complications from a subjective patients' point of view. Options of robotic thyroid surgery was also explored with patients.

Method: A standardized questionnaire was mailed to 312 patients who underwent thyroid surgery in a large university hospital over 5 years.

Results: Subjective voice assessment using a visual analogue scale normal in 130 (67%) patients, deteriorated in 34 (18%), improved in 28 (15%) patients. *Voice Handicap Index* scores: normal 122 patients, increased in 70 (36%) patients to a median of 17 (range 11–29). As a consequence *Voice-Related-Quality-of-Life* outcome was excellent in 100 (53%) patients, fair-to-good in 81 (41%) patients and poor-to-fair in 11 (6%) patients. Subjective assessment of swallowing: normal 80 patients; moderately affected 112 patients. Appearance of the scar assessed using the *Manchester score* ranged from 1–16 (median 7).

Conclusions: On direct questioning a large proportion of patients report persistent moderate voice and swallowing problems after thyroid surgery. These findings are similar to the recent international multicentre survey.

0961: IS PRE-OPERATIVE 99M-TC SESTAMIBI SCANNING PREFERABLE TO NO PRE-OPERATIVE SCANNING IN PATIENTS WITH PRIMARY HYPERPARATHYROIDISM?

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Aim: Parathyroidectomy is key in the management of hyperparathyroidism, yet the methods used to preoperatively localize parathyroid pathology are controversial. 99m-Tc sestamibi scanning is the most commonly used method, however, some argue that surgical experience is sufficient. The aim of this study is to establish whether pre-operative 99m-Tc sestamibi scanning is preferable to surgical experience alone in the identification of pathology in patients with primary hyperparathyroidism.

Methods: Retrospective case-note review of 258 patients with primary hyperparathyroidism (199 female; mean age 61.1 ± 13.1 years) who underwent parathyroidectomy between 2003 and 2010 in one centre.

Results: 87.2% of patients underwent pre-operative sestamibi scanning. The technique had a sensitivity of 95.8% and a Positive Predictive Value of 96%. The rate of localisation to the correct side was 81.8%. 49.3% of scans could correctly localize the abnormal gland. Where no preoperative scanning was used, the abnormal gland was identified in 97% of cases.

Conclusions: Surgical experience alone can successfully identify parathyroid pathology, however, bilateral neck exploration is necessary. Sestamibi scanning is useful in the planning of parathyroidectomy as it reduces the need for bilateral exploration, reducing postoperative morbidity. We acknowledge that surgical experience is also important in improving the accuracy of parathyroidectomy.